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STATE DEPARTMENT OF EDUCATION
Sacramento, California

CALIFORNIA JOURNAL OF ELEMENTARY EDUCATION

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FALL CONFERENCES OF ELEMENTARY SCHOOL PRINCIPALS AND DISTRICT SUPERINTENDENTS

Four official conferences of elementary principals and district superintendents called by the State Department of Education were held during the fall of 1932 on the following dates:

October 1, at Asilomar
October 22, at Dunsmuir
October 24, at Willits
November 5, at Pasadena

The theme of these conferences centered around a philosophy for elementary education, of which the six objectives advanced by Miss Heffernan were developed by principals and district superintendents in their particular districts, and opportunity was given for a free discussion and exchange of ideas. The following topics were discussed:

A Philosophy for Elementary Education
- a. Health as the Basic Objective
- b. Training for Participation in Social Relationships
- c. Complete Realization of Individual Potentialities
- d. Habits of Critical Thinking
- e. Acquisition of the Common Knowledges and Skills
- f. The Awakening of Desire to Seek for Beauty

The Monterey Peninsula group, including the principals and district superintendents from the counties of Monterey, San Benito, San Luis Obispo, and Santa Cruz, met at Asilomar for conference. The discussions following the presentations were stimulating and helpful. The following persons contributed to the program:

Delia Briggs, Principal, Ausaymas School, Hollister
R. D. Case, Superintendent of Schools, Salinas
E. Homer Edgecomb, Principal, Arroyo Grande School, Arroyo Grande
Ethel Higgins, Principal, Atascadero School, Atascadero
A. O. Saxe, Principal, Santa Margarita School, Santa Margarita
Grace Widemann, Principal, Gonzales Union School, Gonzales

Superintendent Kersey presided at the luncheon and discussed "Urgent Problems in Elementary Education" with the principals at the afternoon session. T. S. MacQuiddy, District Superintendent of Schools at Watsonville, spoke at the luncheon on "The Principalship as a Profession."

The group, gathered informally about the big fireplace in the conference room, discussed the day's program.

The State Department of Education welcomed the opportunity for closer contact with the principals of Siskiyou County at the conference called at Dunsmuir on October 22, 1932. A number of the principals who attended this meeting came many miles over difficult roads.

E. R. Deering, District Superintendent of Schools at Dunsmuir, and E. G. Hawkins, Mayor of the town and Clerk of the board, welcomed the group on behalf of the townspeople.

Carefully prepared papers developing the educational philosophy advanced at the opening of the meeting were read by the following:

Cyril H. Collett, District Superintendent of Schools, McCloud
Mrs. Lena Crabtree, Principal, Tule Lake School, Tulelake
Arthur Holtorf, Principal, Mount Shasta Union School, Mount Shasta
George E. Luttrell, District Superintendent of Schools, Yreka
Gladys L. Potter, Assistant Chief, Division of Elementary Education and Rural Schools, State Department of Education
Stuart Waite, Vice-principal, Dunsmuir Elementary Schools, Dunsmuir

Dr. Aymer J. Hamilton, President of the State Teachers College at Chico, and several members of his faculty were in attendance at the meeting. Dr. Hamilton spoke at the luncheon on "The Principalship as a Profession." Superintendent Kersey expressed his deep appreciation for this opportunity to become personally acquainted with the principals of this section and spoke on "Urgent Problems of Elementary Education."

Through the courtesy of Fred D. Patton, Superintendent of Schools of Mendocino County, and Mrs. Bertha R. Murray, Superintendent of Schools of Humboldt County, it was possible for the State Department of Education to hold the third conference in this series during the Humboldt-Mendocino institute session at Willits. A large group of principals and district superintendents from this area gathered on Monday and Tuesday afternoons, October 24 and 25, 1932, to discuss their common problems. Excellent presentations and discussions by members of the group followed Miss Heffernan's opening talk.

The Humboldt and Mendocino county principals and district superintendents who appeared on the program were:

Catherine Brown, Mendocino County Nurse, Ukiah
Myrtle Eglin, Principal, Occidental Elementary School, Calpella
John W. Hardwick, Principal, Fortuna Elementary School, Fortuna

Mary Sample, Arcata High School, Arcata
Margaret Spaulding, Hanson Elementary School, Comptche
Hugh B. Stewart, Principal, Arcata Elementary School, Arcata
J. R. Wilson, Principal, Mendocino Grammer School, Mendocino
Ray R. Wilson, Principal, Ukiah Elementary Schools, Ukiah

Arthur S. Gist, President of the Humboldt State Teachers College at Arcata, participated in the discussions and talked to the group about the importance of the position of the elementary school principal.

The principals expressed themselves as most eager for these conferences to become annual affairs.

The largest conference of this series which has been held convened in the metropolitan area of Pasadena on November 5, 1932. The meeting was held in conjunction with the regular business session of the California Elementary School Principals Association, Southern Section. The progressive practices and wide professional vision of those present gave impetus to the live discussions which characterized the entire meeting. The fact that two great universities were combating on a nearby football field did not deter this earnest group from continuing the discussion of their problems far into the afternoon.

The business session of the California Elementary Principals Association, Southern Section, was conducted by President Harley W. Lyon, Principal of the Longfellow School, Pasadena.

The luncheon was well attended. Osman R. Hull, Professor of Education, University of Southern California, discussed "Public Relations of the Elementary School Principals," and Superintendent Kersey set forth the vital problems which must be met by the members of this important group of educators relative to elementary education in the present crisis.

The principals and district superintendents who so generously contributed to the success of the conference by their presentations on the several objectives of elementary education were:

Edward J. Hummel, District Superintendent of Schools, Beverly Hills
J. Murray Lee, Elementary Principal, Burbank
Harley W. Lyon, Principal, Longfellow School, Pasadena
Myletta M. Morris, Principal, Harding School, Santa Barbara
Fred W. Orth, Principal, Coronel School, Los Angeles
Esther R. Poulsen, Principal, Montecito Union School, Santa Barbara

These four regional conferences reached the principals and district superintendents of 11 counties and have served to make closer the contact of the State Department of Education with these key people in the field of elementary education in California.

Spring conferences are called at San Diego on February 25, at San Francisco on March 11, and at Fresno on April 22, 1933. The theme of these meetings will center around the integration of subject matter in the modern elementary school program.

URGENT PROBLEMS IN ELEMENTARY EDUCATION

VIERLING KERSEY, *Superintendent of Public Instruction*

Such a title as "Urgent Problems in Elementary Education" involves a selection and discussion of the *most urgent* demands upon the attention of the educator at the present time. It seems desirable to make a preliminary statement of the specific problems selected directly related to the work of the educator in elementary education and then to expand each. Whether the specific problems represent those of greatest urgency must be determined from the individual's point of view.

Six major needs occur to me as imperative in surveying the important field of elementary education:

1. The problem of the adaptation of instruction to the individual capacities and interests of children and to the demands of modern social life.
2. The problem of making the elementary school plant an asset in the socialized and activity type of program.
3. The problem of constructing a curriculum in terms of the needs of childhood.
4. The problem of providing for the proper education of teachers for elementary education and the continuance of growth in service through scientific supervision.
5. The problem of adequate financial support of a program of elementary education.
6. The problem of public understanding and support of the elementary school as the fundamental division of the system of public education.

Adaptation of Instruction to the Individual Capacities and Interests of Children and to Demands of Modern Social Life

Profound changes in living conditions in the last half century have placed new functions and new responsibilities upon the school. Leading educational thinkers maintain without exception that the school must assume large responsibilities for the development in youth of qualities of good citizenship, of ability to understand and think clearly about problems of everyday life, of a knowledge of the scientific and social facts essential to practical living, of creative and constructive abilities, of appreciation for the cultural assets of life which may contribute to the wholesome use of leisure and a healthy interpretation of life purposes.

The formal techniques of reading, writing, spelling, numbers, and language are still important. These conventional tools of modern

life, the school must continue to teach. But the new responsibilities are given large place with the assumption that formal techniques should be learned in relationship to life activities and purposes which they are to serve.

The school must take responsibility for teaching all that is desirable which cannot be taught in the highly organized and machine-controlled conditions of the modern home and industrialized occupations. Affording the means of growth in accordance with each individual's capacity and needs is the forward-looking conception of the educational function. Unfortunately, practice far from this ideal still prevails.

In many schools, promotion on the basis of performance in subject matter and depending upon verbal memory still prevails. Resulting from this, the emphasis is upon the formal with little provision for utilizing other abilities of social value. Little opportunity is afforded for learning life's important undertakings by participation. Many children by no means devoid of valuable social assets, fall farther and farther behind in the grades and are finally eliminated without ever having the opportunity of learning much of value to them within the range of their abilities.

Manifestly, one of the most urgent problems of the elementary school principal and the district superintendent is the adaptation of the course of study and the instructional procedure to the abilities of *all* the children. The selection and organization of formal subject matter is comparatively simple. Assignment of lessons in books, holding children to a study of the assignment and testing to determine the degree of retention appeals to some educators because of the smooth operation of the mechanism, but is a totally inadequate method of meeting the functions and responsibilities of modern life. Learning included an integration of new facts, processes and meanings with one's life. Geography is not *learned*, in the sense that one's thoughts, feelings or actions in life situations is affected, unless it is learned in connection with the answer to some question which it helps to interpret. In the past we have been content to store the memory with facts and processes dissociated from child life, in the hope, usually vain, that the adult would be able to assemble the necessary components in carrying out his enterprises.

The modern school must provide situations, conditions, problems, and opportunities for the use of school facilities in the obtaining of valuable experiences; in learning to do those things that are worth doing. To point the way, to indicate the school practice which will afford the opportunity for such natural and wholesome growth is the most urgent responsibility of the educator alert to the larger responsibilities of education.

In the light of our present knowledge of psychology, we conclude that the surest method of learning a thing is through experience. We *learn* those things we actually do. We *learn* in the *process* of *doing*. Living is the medium of learning. Richness, fullness of *learning* comes only when the school provides an opportunity for richness and fullness of *living*. An ideal program of learning is a program of living each day completely according to one's capacity. The efficiency of today's accomplishment makes the realization of tomorrow's demands possible. As the living of children is guided into desirable experiences they come in time to maturity, accustomed to meeting life's demands with efficiency and to securing the richness of meaning from all life's relationships.

Making the Elementary School Plant An Asset in Socialized and Activity Program

The elementary school educator should recognize that a school building, even though made of "sticks and stones" is not passive or neutral to educational ideals and progressive school programs. Either it facilitates realization of the ideal or it obstructs.

An elementary school is a place for children to plan, work, play, and live normally and healthfully, and not merely a place to learn and recite lessons. Some buildings make the approved type of program almost inevitable while others make it well nigh impossible.

The planning of a new building is the most vital and far reaching professional experience an educator may reasonably expect to have. He should, therefore, rise to the occasion and not hesitate to make use of qualified assistance wherever it may be had.

Many old buildings yield remarkably well to alterations that make them more suitable to the modern program. The planning of alterations should be preceded by a careful evaluation of the entire school plant by persons properly trained in rating school buildings by the score card method. The Division of Schoolhouse Planning of the State Department of Education is prepared to do work of this kind upon the request of local districts.

Second in importance only to having good facilities is the need of the constant proper operation of the plant. Sufficient glass area, properly located, does not keep the classrooms light and cheerful unless shades are periodically adjusted throughout the day. An adequate supply of heat for the building as a whole may mean too much or too little in individual rooms unless timely adjustments are made. Ventilation transoms are useless unless adjusted in accordance with daily and seasonal needs. Principals should coordinate the efforts of custodian, teacher, and pupil to the end that the full value of installations may be realized.

Good housekeeping standards in the school building are not only hygienically important but help to establish in the pupils lifelong habits of cleanliness and order.

It is more essential to have variety and balance in the school plant facilities provided than to have one phase such as auditorium, play area, cafeteria, or library outstanding at the partial expense of the other needed areas.

The program and the activities are even more important than special plant provision. If the school does not have a library perhaps the library service can be put into the classrooms. If a play shelter cannot be provided, perhaps some wide corridor, an arcade, the auditorium or even the classroom can be used to give the pupils the physical activity which is more acutely needed during inclement weather than in normal weather. If an auditorium is not available the larger group activities may be carried on out of doors when possible.

The elementary school plant can and should be made available to both adults and children out of regular school hours and school days for any legitimate activity for which the building is suited. This not only brings the school closer to the community but makes the school more vital and less formal in the minds of the children. The school becomes a place where people of all ages do things rather than a place where children are forced to go because they are children.

Given a corps of teachers who know and are sympathetic toward the activity program the most important additional requirement for the success of that type of program is the suitability of the classroom. Some of the most important spaces and facilities that appear in the activity classroom that are not usually found in the formal classroom are:

1. Greater floor space. The keynote of the new program is freedom and variety in the performance of planned activities. Free floor space as well as special fixtures are necessary.
2. A small workroom or alcove off the main classroom equipped with running water and sink, gas plate or other heat, work bench with vise, tool rack, lumber rack, bins for materials and utensils.
3. A study or library table where a small group of children may more or less literally get their heads together for planning and developing units of work.
4. A work table where pupils may develop ideas in some concrete and graphic form.
5. Pupil work-lockers where units of work in process of construction may be stored.
6. Movable seating to facilitate work by smaller groups.
7. Generous general storage spaces and filing facilities.
8. Plenty of bulletin board and pinning space.

With the inclusion of these additional facilities in the classroom the need for a more careful arrangement is obvious. Pupil circulation and adequate area in which to work comfortably are prime essentials. Any plan of alteration of the classroom should give careful consideration to redecoration. The introduction of color is desirable if great care is exercised to avoid depressing colors and those with low light reflection values.

The library is the heart of the elementary school. Attention to the needs of individual pupils, work on a wide variety of units, and the felt need for developing in the pupil the ability for independent problem solving, study and research, combine to make the school library second in importance only to the classroom in facilitating the modern school program. Sufficient space for the wide variety of books needed, provision for the accessibility, control and attractive display of these books, and an informal environment conducive to study are the physical requirements of the elementary school library.

The growing recognition of social values in education gives the auditorium or school assembly hall a place of great importance. This room should be planned to facilitate the school program rather than incidental adult community use.

Pupil health now as always should be carefully considered in school plant provisions. Emphasis now is on health practices rather than health instruction. This emphasis makes important an adequate play space, both outdoors and in, plenty of easily accessible drinking fountains and adequate sanitary facilities.

Constructing a Curriculum

It would be impossible to do more than indicate the major aspects of a dynamic curriculum. Briefly, it is accepted that:

1. The curriculum of the elementary school must provide for the harmonious development of the physiological and psychological aspect of each stage of growth from early childhood to adolescence.
2. The curriculum of the elementary school must base its subject matter upon the demands of social living in a rapidly changing civilization.
3. The curriculum of the elementary school must embody unity and integration of subject matter. Not so many years ago, (1925) the school code in the State of California listed 31 subjects for study in the elementary schools. Now, statutory requirement provides for from 13 to 16. Even these are too many. The remedy lies not in eliminating new subjects, because each of them was added to meet new demands of highly socialized living, but in integrating the new subject matter until each unit of work represents a unified experience to the child.

4. The curriculum of the elementary school must be adapted to the specific environment and interpret to the child the particular agricultural, commercial, industrial, and social conditions under which he lives. Only as he has a critical insight into the problems of his environment can he adapt himself to that environment and contribute his share to lifting that environment to higher levels of civilization.
5. The curriculum of the elementary school must be adapted to the individual needs of each pupil. The individual is important in the scheme of education. That education may be said to be successful which is geared to the needs, capacities, and interests of each child and is organized to utilize his special gifts for the welfare of the social group.
6. The curriculum of the elementary school must be flexible. The great contribution of psychology to the science of education is the evidence that all children are different. The curriculum must provide for the elimination of the lockstep in education and the adaptation of instruction to individual differences. There is probably an extremely small body of subject matter that *every* child should master. Children must be permitted to progress at their own rates and toward goals which they can understand.

The interpretation of these principles into the curriculum which is actually in effect in classrooms not merely in the printed pages of some course of study is the basis of the new type of education designed to meet the needs of our complex social organization.

Educating the Elementary School Teacher

The significance of effective education for teachers in elementary education is immediately apparent. This education should include the cultural experiences which a teacher should have as a background for professional service and community leadership and at the same time a basic technical training adequate for meeting the problems of instruction and guidance of children.

The importance of adequate scholarship, good professional preparation, personality, proper professional attitudes, sound physical condition and social understanding to the success of a teacher is axiomatic. That the educational institutions should awaken in young teachers the ideals and enthusiasms which will give them the ability to meet the problems of life is indispensable. Unless the young teacher is fired with the importance of education as a means of improving the race, unless the young teacher is devoted to the ideal of service, the profession will do as well without her entrance into it. The true teacher is one dedicated in spirit to a faith that through education boys and girls may be led to useful living and thereby society may be progressively improved. The real teacher sees in teaching her greatest opportunity for constructive social service.

The teacher training institutions must be constantly alert to these responsibilities. But no matter how effectively they discharge their responsibilities much of the work of teacher training must be of an in-service nature. The elementary school principal and district superintendent are in full partnership with the training institutions in continuing the teacher's training. This activity doubtless constitutes the highest function of the principal. All else he may do—important as these responsibilities may be—are after all merely making preparation for the bringing together of teachers and pupils under the best possible conditions for instruction. To guide and develop instruction, to bring to teachers and help them interpret the findings of educational research, to encourage an experimental attitude toward techniques of teaching which results in constant improvement of method, are the activities striking at the vital purpose for which education exists. More and more attention is being directed to the principal as the supervisor of instruction. The principal, through his fulfillment of these responsibilities, raises his professional status to a scientific level. The new principal, an expert in the guidance of the instructional program, is rapidly replacing the principal who was complacent concerning his accomplishment as a bell-ringer, a clerk of supplies, a super-custodian, a disciplinarian, and a decorative but expensive office fixture.

Financing Public Education

Education has suffered tremendous reverses during the past year. Teachers' salaries have been reduced; in some places fewer teachers have been employed and the size of classes has been increased; in some places teachers of little training and experience have been employed at lowest salary levels; in some districts expenditures for needed instructional supplies and supplementary materials have been seriously curtailed; in certain districts all provision for indispensable activities such as health service, music education, and kindergarten education, have been eliminated.

Present conditions demand that the most stringent economies be practiced. Not less than 100 cents should be the return on each educational tax dollar expended.

No California educator is unaware of the present inequalities that exist in the varying abilities of districts to support adequate programs of education. Needed changes in our financial system should be made to provide first that the state contribute a larger proportion of the total support for schools, thereby relieving personal and real property from its disproportionate share of the tax burden and second, that a plan of equalization permit a more equitable distribution of the burden of support in proportion to the ability of districts to pay.

The problem of maintaining public understanding through community relationships is one of the major activities of the elementary school educator. The safety and welfare of the schools depend upon how effectively the educator interprets the schools to the public.

Schools, and particularly elementary schools, were not inflated as were other lines of activity and the results on the schools of excessive deflation cannot but mean the deprivation of proper educational opportunity to our children. I believe that our most solemn obligation is the stabilization of education. No effort should be spared to prevent permanent injury to the development of the children now in our schools. There is one debt for which no moratorium can be declared, *the eternal debt of maturity to youth—education.* Those who promote the idea of abrogating this responsibility are motivated by selfish and pecuniary interests. They are denying the very basis of democracy. The clarion call to "cut the cost of education" has assumed a popularity in these times when the world is economically out of gear.

Public Understanding and Support of Education

As never before, we are morally accountable for keeping before the people the importance of maintaining the integrity of our educational institutions. This problem of informing the public concerning the objectives of education and interpreting the school to the society it serves is very close to that of securing adequate financial support. It is essential that every educator assume responsibility for interpreting the purposes and values of the educational service rendered by his school. Each educator must analyze his problems of public relationships. He must answer these questions in determining his program of school publicity:

1. What is there about our present school program concerning which the public should be informed?
2. What means are available for our use in informing the public concerning the schools and in stimulating and maintaining interest in the school program?
3. How may the facilities available for a public relations program be best organized?

The solution of these problems is our common responsibility. They cannot be solved in a short time by the effort of any one person or any small group of persons in the state. The close cooperation, the individual endeavor of every principal and district superintendent will result in a cumulative accomplishment of these major purposes. To these needs, we earnestly direct your enthusiasm and professional effort. To your work in achieving their realization, we pledge the facilities and cooperation of your State Department of Education.

A STATEMENT OF THE PHILOSOPHY AND THE PURPOSES OF THE ELEMENTARY SCHOOL

HELEN HEFFERNAN, *Chief, Division of Elementary Education and Rural Schools, State Department of Education*

A BASIC PHILOSOPHY FOR ELEMENTARY EDUCATION

The philosophy of John Dewey is basic in the thought and practice of most advanced schools today. He maintains that education is life; education is growth; education is a social process; and education is a continuous reconstruction of experience.

1. *Education is life*

Education is life, a continuous process from the beginning to the end of life, both in and out of the school. The child should be treated as an individual with real problems to solve and a real life to live. Education is not only preparation for adult life, it is life itself. Only as this conception is embodied in instruction, will the child be developed to cope with the problems of adult life as he meets them.

2. *Education is growth*

The great process of education is the change that takes place from day to day. As long as growth continues, education is taking place. The great goal of modern education is growth that begins at birth, is guided through the school years and continues throughout life.

3. *Education is a social process*

Education in America must be education for living in democracy. It must go on in a social group. Education is more than learning, it is living. Schools must be democratic societies in which children live natural democratic lives with their companions in order that they may grow into adulthood with good citizenship as a part of their experience.

4. *Education is a continuous reconstruction of experience*

The activities of each day are based on past experiences. Every day of a child's life is conditioned by previous days. When new experience is added to the old, reorganization of all experience takes place in the light of the new experience. Education is then a present activity and not a product to be striven for in the future. It is life and it is growth in a social environment.

THE PURPOSES OF THE ELEMENTARY SCHOOL

Modern education aims to develop the whole child. It concerns itself with *growth* and *change* in the many-sided aspects of child nature. Not only must education provide for the adequate mental development of the child, but provision for the physical, emotional, esthetic, and spiritual progress of the child constitutes equally significant problems.

The multiplicity of kinds of development for which education is responsible may seem to indicate a confusion of the aims or purposes of education. The purposes are complicated because the development of the total personality is an intricate process. Despite their complexity, the purposes lend themselves to considerable clarity of definition in terms of child psychology, scientific education, and the sociological implications of modern life.

In general, the aim of education is to provide opportunity for the fullest development of the thought, feeling, and conduct of each individual, to the end that he may realize his potential possibilities for the greater good of himself and society.

Valuable as such a general statement may be to indicate a basic educational philosophy, it is essential to translate it into more specific purposes as a basis for actual educational procedure.

In 1918, the Committee for the Reorganization of Secondary Education[1] stated the general objectives for secondary education. These have been accepted verbatim and applied to elementary education without particular concern about their applicability to the education of the young child. Verbal acceptance has not always been followed by translation into practice. Doubtless, one of the great needs of elementary education is definition of educational purposes in terms of the needs and nature of children of elementary school age.

Elementary education has passed through tremendous changes in philosophy, utilization of the scientific method, and reorganization of administrative practices. In the light of modern knowledge of the development of young children a statement of the purposes of the elementary school is essential to a clear understanding of California's program for elementary education.

Purpose 1. To develop a sound body, normal mental attitudes, and controlled emotional reactions

Modern education recognizes and assumes its responsibility in caring for the physical welfare of children and in providing individual success and security which is necessary to insure normal mental

[1] United States Bureau of Education Bulletin 1918, No. 35. *Cardinal Principles of Secondary Education.*

attitudes and controlled emotional reactions. The intimate relation between physical and mental health on the one hand and school achievement on the other is definitely established.

The demands of health are imperative. The modern school is vigilant concerning posture, prevention of eyestrain, establishment of health habits, and control of communicable disease. They must become increasingly watchful that health is safeguarded by permitting children to move about freely, with opportunity for much activity. If the school situation is not to be positively inimical to children's health, it must eliminate strain and overstimulation, and provide a natural wholesome environment.

Closely allied to physical well-being is *mental health.* Children must be happy, confident, and successful if they are to have normal mental attitudes. They must know they are growing, must be freed from worry, fear, and any sense of inferiority. Repression is the basis of maladjustment. Children must have opportunity to express themselves physically, mentally, and socially. The school must teach control, not through the prevention of activity, but by providing situations in which choice of possible alternative behaviors must be made. The guidance of the teacher is advisory, never dictatorial.

Purpose 2. To develop an understanding of social relationships and a willingness to participate in them in ways conducive to the progress of society

Children enter the elementary school from the smaller social group of the family. They must become socially adjusted to the members of the group. They must learn to work together harmoniously, to use liberty wisely, to participate in group activities in a helpful, socially acceptable way.

The social relationships within the school must provide the natural situation for children to learn to live and work together. Each child has a contribution to make to the group enterprise. He must learn to assume his share of the responsibility; to help others; to participate according to his interest and ability; to recognize and appreciate the contributions of others; to feel himself an active, necessary, integral part of his own social situation.

Purpose 3. To develop the individual as completely as possible

The great variety of contributions made by individuals to society has made life rich and full of interest. It is not the similarity one individual possesses to all others, but the unique differences, which make possible valuable service to the social group.

Modern education purposes to preserve the differences; to develop varied interests; to cultivate unique powers of expression;

not only that these manifold potential contributions may be secured for society, but in order that the individual may experience vital, satisfying, and complete realization.

This purpose abolishes mass education and the lock step. It means that children will progress at their own rate, whether slow, moderate, or rapid. It means a refusal to gear educational advancement to a mythical *average child*. Most profoundly, it means that the interests and purposes of each individual child are important, and it is the function of the school to find ways and means of carrying them out.

There is a vast amount of difference in capacities, experiences, and rates of growth, and no standardized procedure will serve the needs of every child in the complete development for which modern education strives. The individual is the important consideration. Variety is expected and desirable.

Purpose 4. To cultivate habits of critical thinking

The complexities of modern society can no longer be met by an educative experience based upon the acquisition of a wealth of factual material alone. It is the function of the school to develop powers of critical thinking by which the problems of today or tomorrow may be evaluated and analyzed. Even the most forward looking educator cannot anticipate what conditions will exist in the future. It does lie within the power of education, however, to develop keen, well ordered, analytical habits of thought about genuine problems in preparation for more effective control of future problems. Through a varied program of integrated units of work which demand pupil initiative and responsibility, and which depend upon research by the child for the collection of data essential to thorough understanding, the school may develop habits of critical thinking.

Purpose 5. To acquire command of the common knowledges and skills essential to effective living

Modern education does not neglect the importance of acquiring command of the common knowledges and skills.

These knowledges and skills may be grouped as follows:

(1) the tools of learning, including reading, writing, spelling, and arithmetic
(2) the motor skills, involving the use of the hand-crayon, pencil, tools of cutting and measuring, and the manipulation of materials
(3) oral expression emphasizing particularly ability to talk correctly and naturally, with clear, pleasing tone quality and careful enunciation.

Such skills cannot be acquired with equal readiness by all members of a group in a specified time. Such learning should be geared to the individual. Children should be protected from competition with one another because such competition results in feelings of inferiority. The only competition permissible in the modern school is an effort to improve the individual's own former record.

Purpose 6. To develop appreciation for and desire to seek beauty in its many manifestations

The school aims to develop an ever increasing capacity for appreciation of beauty, fineness, and the worthy contributions of all artists to our national culture.

The school should develop and stimulate imagination and creative power. The creative impulse expresses itself most freely in music, in art, in literature, in dramatics, but it can express itself in numberless forms.

Keen sensitiveness to beauty in its myriad forms gives substance and richness to life. We are in a world of beauty, immersed in beauty, as Emerson puts it, and most of us are missing the beauty around us that might be such a source of solace and joy in helping us meet the problems of life. Our great cultural inheritance from the past should not find us oblivious. Complete development for children must certainly include what is great and beautiful in the world of art—that world in which all may possess the treasure who have eyes to see and ears to hear.

THE IMPLICATION OF THIS PHILOSOPHY AND THESE PURPOSES TO THE ELEMENTARY SCHOOL

Such purposes and such a philosophy have profound significance in procedures in the schools. They mean the elimination of the evils of failure and nonpromotion; they guarantee that every child shall work to his fullest capacity and in accordance with his own nature and that the teacher will secure satisfactory results through the child's interest and not by holding over the child the disintegrating fear of failure.

These purposes imply reorganizing the schools so that children may have an opportunity to experience desirable social relationships; to develop powers of thinking through problems; to cultivate individual interests and aptitudes. They imply an emphasis on that subject matter which makes living a rich, colorful, cultural adventure in the realms of art, music, and literature. They imply watchfulness over every environmental influence which might be subversive to the child's complete physical, mental, social, and spiritual realization.

WHAT THE PUBLIC KNOWS ABOUT EDUCATION

ARTHUR F. COREY
Assistant Superintendent of Schools, Orange County

AND

OSMAN R. HULL
Professor of Educational Administration, University of Southern California

The recognized mediums through which an educator may reach his people in a public relations program are numerous and well developed. Professional publicists have taught educators many lessons about selling an idea. The question of public relations which is of imminent importance to school people is not *how* to tell the people but *what* to tell the people. The advertiser generally confines his material to a single idea. Educational interpretation to be effective must also have continuity and unity. The public cannot be taught all about the schools in a single week or even in a single year. There is undoubtedly a wealth of material which would be useful to the public, but as the scope of the program of educational interpretation is limited, the wise educator will choose carefully his material and stress the most vital issues.

Criteria For Public Relations Material

In evaluating material for educational interpretation, Farley[1] has placed high value upon the expressed desire of the public as to what they would like to know about the schools. If the assumption is accepted that people always wish to know about the things of which they are ignorant, such a criterion is quite valid. If we do not accept such a premise, it becomes necessary to find out what the public does actually know about the schools.

Public Opinion Represented in Service Clubs

In Orange County, California, it was recently decided to attempt to obtain from the people some kind of a measure of their knowledge of the principles of education and a reaction to the operation of these principles in the public schools. Orange County has a population of about 125,000 people. The county is about 27 miles square, and contains one city of 35,000 population; three cities of 13,000; and 12 towns ranging in population from 500 to 7,500. The chief industries are petroleum and citriculture.

The first problem to present itself was: Who shall be tested? The service clubs seemed to present the most satisfactory answer to

[1] Belmont Farley. "What the People Want to Know About Their Schools," *Teachers College Record*, Feb., 1931, p. 471.

MY SCHOOLS

..... My Profession ..... My City

Underline the statement which most satisfactorily completes each sentence. UNDERLINE ONLY ONE on each sentence.

1. The purpose of all education is to impart knowledge / develop ability to adjust to new situations / teach a trade / make life easier
2. The most important subject in the first 3 grades is arithmetic / spelling / reading / writing
3. The factor most significant for good schools is suitable building / good text books / efficient teachers / adequate supplies
4. Art teaching should teach children to draw / give appreciation of the beautiful / discover genius / give a period of relief and relaxation
5. Public Education should be supported by taxation on parents of children / real property / corporations / all existing wealth
6. The study which could best be dropped from High Schools is shop / English / Latin / biology
7. The function of the elementary school is to teach the 3 R's / make good citizens / instil patriotism / prepare children for high school
8. The age of compulsory full time school attendance in Calif. is 6—16 / 8—16 / 7—17 / 5—14
9. The efficiency of a High School would be most seriously affected by eliminating swimming pool / library / cafeteria / machine shop
10. History is a written account of wars / the progress of humanity / events / lives of famous men
11. Intelligence tests are intended to find out how much a pupil has learned / pupil's progress / a pupil's ability to do school work / how hard a pupil tries
12. Physical Education should seek to produce winning teams / foster discipline / develop general health / teach physiology
13. The purpose of State Financial aid to schools is to relieve local tax burden / to encourage state control / to equalize educational opportunities / to increase teacher's salaries
14. The first step in teaching a child to read should be teach phonetics / teach A B C's / teach simple sentences / teach simple words
15. The purpose of Kindergarten is to teach children how to play / how to read / how to get along together / new games
16. Social science is the study of religion / people / politics / etiquette
17. A secondary school is a primary school / kindergarten / high school / elementary school
18. Modern methods of teaching have been greatly affected by physics / psychology / astrology / physiology
19. The State Sup't of Public Instruction in Calif. is Will C. Wood / John Cooper / Vierling Kersey / Rolland Van De grift
20. All pupils in High School should be required to study foreign language / mathematics / English / wood shop
21. The most skillful and best prepared teachers should be placed in college / elementary school / high school / jr. high school
22. Biology is the study of rocks / stars / living things / the human body
23. A Junior High School usually contains grades 7—8 / 10—12 / 1—6 / 7—10
24. The average annual cost of Elementary Education in Calif. per pupil is $200 / $150 / $100 / $50
25. The subject which could best be dropped from Elementary School is grammar / music / arithmetic / literature

the problem. These organizations were formed and have been developed systematically to be representative of the life of the community. The fact that occupational membership is limited in each club guarantees a broad field of interest and precludes the domination of any group. Kiwanis International, Rotary International and Lions International were found to be represented by thriving clubs in the county. Twenty such clubs were contacted and all agreed to cooperate in the study. It was later decided to include four Business and Professional Womens Clubs and the Parent Teacher Association Council of the county. This gave a representation of both men and women.

Test of Educational Information Constructed

With the help of these groups of interested citizens assured, it became necessary to construct some type of test to which they might react. After considerable experimentation with small groups of adults, reacting to various types of objective tests, it was decided to formulate a series of statements concerning education with four possible completions for each statement. The completion which best agreed with the opinion of the individual was to be underlined. Many such statements were constructed in the fields of: a) teaching method, b) organization and administration, c) curriculum, and d) educational philosophy. Matters of fact and opinion were about equally divided, but the matters of opinion selected were those upon which there is rather recognized agreement among leading educators. This preliminary list was submitted to about 50 representative educators. This group was asked to mark the correct responses to each statement and also to select the 25 statements which would be most significant of the general knowledge of a layman about the schools. The reactions of this group were sufficiently uniform to establish a standard of correct responses and their choice of statements was accepted. The test appears on page 115, marked in accordance with the responses of the group mentioned above. It was impossible for one person to meet all these clubs, and a committee of Orange County educators[1] administered the tests according to directions outlined in a mimeographed form. The test was administered uniformly in all the organizations just as any standardized test would be administered in the schools.

Tests Create Educational Interest

Some apprehension was felt about the manner in which business and professional men might accept an attempt to test their knowledge. Such fears proved unfounded. Excepting the ever-present

[1] Ray Adkinson, Superintendent of Schools; Mrs. Dora Pankey Glines, Assistant Superintendent of Schools; Mr. Alfred Jones, Principal, East Whittier School; Mr. John Hayes, District Superintendent, El Modena; Mr. Wilbur Bonney, Principal, Fremont School, Anaheim; Mr. W. O. Mendenhall, Principal, Katella School, Anaheim, Orange County.

clown who admitted his profession as bootlegging, there was exhibited nothing but respect for the project and intense interest in the questions involved. If absolutely nothing of value were apparent in the results of the study, the keen interest in education generated among the people of the county would justify the effort involved. Many individuals signed their names and addresses to their papers and asked that any results of the study be sent them. Groups of men lingered after the meetings and discussed various issues raised by the test. This interest proved wholesome, and as a by-product of the experiment, might to some overshadow the original objective of finding out *what our people know about education.*

Statistical Treatment of Results

In this study, 1,091 men and women turned in papers to be checked. As the individual score of a single paper was not significant, the percentage of correct responses for each statement by each occupational group was obtained, and the median percentage of correct responses for the 25 statements was taken as a significant index of the group. This method obviously ignores the correction usually made on multiple choice tests to allow for chance answers. The only defense for such procedure is that the objective was not so much a valid score for the test as an analysis of the responses which the test represented. A summary of all the responses for each occupational group for each of the statements of the test was prepared. This made possible not only a calculation of the percentage of correct responses, but also a knowledge of the various sorts of incorrect responses.

Occupational Differences

In Table I will be found the graphic representation of the correct responses of various occupational groups. The medical group includes physicians, surgeons, osteopaths, chiropractors, and nurses. It expresses that attitude of health and healing rather than the single occupation of professional medicine. The executive group is made up of bankers and various types of responsible business and corporation managers. The unclassified group is composed of those who did not fit any of the above classifications as well as those who did not state their occupations. It is worthy of attention that considerably over half of the members of school boards in Orange County come from the business and agriculture groups.

TABLE I

Median Per Cent of Correct Responses by Occupation Groups

Occupation	Median per cent correct responses
Education	90
Journalists	71
Ministers	71
Attorneys	69
Fine Arts	68
Housewives	67
Medical	65
Clinical	62
Executives	58
Business	54
Agriculture	50
Unclassified	48
Total	58

TABLE II

Per Cent of Correct Responses on Each Statement

Statement number	Per cent of correct responses	Statement number	Per cent of correct responses
1	50	14	19
2	67	15	84
3	88	16	72
4	67	17	36
5	72	18	63
6	57	19	38
7	52	20	52
8	30	21	55
9	74	22	62
10	71	23	50
11	39	24	20
12	71	25	8
13	58		

Analysis of Responses

In Table II may be found a graphical representation of the percentage of correct responses given by the total group on each of the 25 statements of the test. By comparing the subject matter of the statements with the results shown in Table II the reader may draw many thought-provoking conclusions. The following classification of

the statements of the test with the mean percentage of correct response for each group is interesting:

Questions of:	Mean percentage of correct responses
Method	28
Organization and Administration	40
Curriculum	56
Philosophy of Education	68

When the statements of the test are classified as to matters of opinion or matters of fact, we find:

Matters of:	Mean percentage of correct responses
Fact	47
Opinion	61

SOME SIGNIFICANT REVELATIONS

Practically 70 per cent of those tested agreed that reading was the most important subject in the first three grades.

One third of the group are still of the opinion that the purpose of all education is to impart knowledge.

Less than 40 per cent of these people knew the purpose of an intelligence test. In fact, almost one third of them felt that an intelligence test measured a pupil's progress.

Only 18 per cent knew the proper method of beginning to teach a child to read.

About one person in three knew that a secondary school was a high school. Almost the same number thought that a secondary school was an elementary school.

One third of those examined could recognize the name of the State Superintendent of Schools who had been in office for three years and was elected by popular vote.

Almost six people in every ten thought that the best teachers should be placed in the elementary school.

Only one person in ten considered music and literature to be as valuable in the elementary school, as grammar and arithmetic.

Three fourths of those examined felt that support for schools should be collected from all existing wealth.

It is possible that a different set of statements and a different population group might have given an entirely different set of conclusions for the study. Suffice to say that the results of these specific questions point to the following conclusions for Orange County:

1. Representative citizens in Orange County are very much interested in public education.

2. There are no apparent differences in viewpoint or opinion which would demand a change of public relations material for any particular occupational group. An analysis of the responses for each occupational group convinces one that the differences are quantitative and not qualitative. Some groups simply seem to need more of it. It is possible that groups might be approached in a particular manner to fit their interest. This however would be a matter of method and not of subject matter.

3. It appears that the people need more information about teaching method and educational organization and administration.

4. The people have a reasonably sound philosophy of education, but are not in possession of the concrete facts to translate intelligently their philosophy into the program of school activity and organization.

5. The public has a tendency to give precedence in its thinking to formal subjects over appreciation subjects.

6. The cost of education has been exaggerated in the public mind.

THE EFFECTIVE DISTRIBUTION OF SCHOOL TIME TO MEET THE NEEDS OF CHILDREN

WINNIE MAE MACKEY, *Rural Supervisor of Imperial County*

"The new school organized itself around the child's intention to learn; the old school organized itself around the teacher's intention to teach him."[1]

Last spring a group of Imperial County teachers, with the assistance of the rural supervisors, attempted to formulate a preliminary basic curriculum. The first step was to state a philosophy upon which to base such a curriculum. The statement finally agreed upon by this group is quoted from the preface of the new curriculum:

> We are interested in the growth of boys and girls in knowledge, in skill, and in character. We endeavor to give the child the ability to meet situations; to carry through successfully; to find a way to live with his fellows; and an opportunity to exercise civic control. Today we are not so concerned with the subjects taught as with the growth and development of the child.[2]

The conversion to and the formulation of such a basic philosophy by a group of teachers and administrators participating in curriculum making was a progressive step forward. There is nothing unusual in the statement. It is a rewording, a restatement of the philosophy of John Dewey, and that of Rugg in *The Child Centered School.* School systems based on this philosophy are found everywhere in California. We are proud of our progressive schools in Imperial Valley. We recognize the influence of this philosophy as we see it mirrored in programs, organization, and procedures; in the new curriculum; in report cards; and in the entire school environment.

In these "new schools" we find extensive provision for individual instruction in the tool subjects. Each pupil is allowed to progress at his own rate, unhindered by slower children or unembarrassed by those who are mentally more alert. Social studies are taught through centers of interest or units of work, thus providing for those social attitudes and habits that develop the child as completely as possible. The aim of the "new school" is to help the individual to adjust himself to a changing civilization.

The making of a satisfactory daily plan for the teacher in these modern schools presented a serious problem to the administrators in this county. It was necessary to have the plan flexible in order to utilize every available source of interest in the community and in the life of the school. We were unwilling to sacrifice the basic philosophy in which we believed, in our efforts to put into effect a stated program

[1] Harold Rugg and Ann Shumaker, *The Child Centered School.* Yonkers-on-Hudson, New York; World Book Company, 1928.
[2] Imperial County Board of Education, *Preliminary Basic Curriculum,* 1932.

of work. The needs of the child and his complete growth and development we agreed should dominate our distribution of school time rather than the traditions of grade, subject matter, or pedagogy.

Two programs which have been reasonably satisfactory to the teacher and successful in meeting the needs of children in particular situations are submitted here. We hope that they may prove suggestive to other principals interested in the problem of how most effectively to distribute the school time to best insure the all round development of children.

PROGRAM NO. 1

Contributed by MRS. LEIFY J. UPHOLT, *Principal, Mt. Signal Union School*

The Mt. Signal Union School, which lies on the southern edge of the desert almost in the shadow of the surrounding rugged mountains, has six teachers. Dairying; the raising of vegetables, melons, and poultry provide a precarious living for a heterogeneous group among whom Mexicans and Japanese predominate. Absentee landlords and struggling renters explain the primitive living conditions. The public schools in such a district are privileged to reveal vistas of hope, joy, and accomplishment to these children of poverty in a land of golden opportunity.

In an effort to encourage individual development and a happy community school life, the children have been grouped according to social age rather than according to academic ability. As a result, the principal has in the seventh and eighth grade classroom, 16 large Mexican children ranging in grade placement from second to fifth grade levels. These children participate in the group work according to their various abilities. The county librarian provides reading material of the proper level relating to the unit of work being carried out by the group. Thus the reading activities of these foreign children may contribute to the common interests of the social group. In crafts, art, and athletics, these over sized youngsters frequently excel and become leaders.

The two school buildings in this district are amply provided with apparatus and playground space. Two buses, each making two forty-minute trips, furnish crowded transportation for 190 pupils. The resulting long day is much too strenuous for primary children, as many of them must leave home before seven o'clock in the morning. To avoid excessive fatigue, the school day has been staggered. Upon the arrival of the first buses, pupils in grades four to eight begin their school day with individual instruction in the tool subjects, while the primary children amuse themselves on the playground, supervised by

their teachers. This period of individual instruction in the tool subjects is repeated at the end of the day with the children who arrive on the second bus. A staggered noon hour, 11:30 a.m., to 12:30 p.m., for primary grades and 12:00 m., to 1:00 p.m., for upper grades, allows time for orchestra, rhythm band, and large group games without interference. The daily program for the upper grades, the seventh and eighth, in one school follows:

Daily Program for Grades Seven and Eight

a.m.

7:50– 8:40 Individual and remedial work with the first group (arithmetic, spelling, and work-type reading)
8:40– 8:50 Relief period. Flag salute Monday only
8:50–10:15 Work period
Social studies; group work, informal talk, reports on progress of work, plans for day's work, study groups, conferences, crafts related to unit of work
10:15–10:45 Recess and physical education
10:45–12:00 Work period
Language arts: word study, grammar, penmanship correlating with composition (reports for social science units, letter writing, etc.) Reading for pleasure
12:00– 1:00 Noon, supervised lunch, 20 minutes

p.m.

1:00– 2:00 Appreciation: music, art, literature, book reports, folk dancing
2:00– 2:10 Relief period. First bus leaves
2:10– 3:00 Individual and remedial work with second group (arithmetic, spelling, work-type reading)

PROGRAM NO. II

Contributed by MRS. HESTER PARSONS, *Principal, Alamo School*

The day in the Alamo School is started at 8:30, when the big bell in the old wooden tower rings out its welcome. As there is no bus serving this school, the children come down the roads in twos, threes, and dozens, swinging their lunch pails. Others who live too far away are brought in cars by parents or older brothers and sisters. A few bicycles are always present; a half dozen boys dash up on horseback; and two old-fashioned buggies come every morning, each bringing several children to join the school family.

Three of the four teachers spend the half hour from 8:30 to 9:00 on the playground with the children. The apparatus is constantly

supervised, to reduce accidents to a minimum. Baseball and volleyball are very popular, and games are under way as soon as a sufficient number of children arrive in the morning. Those children who prefer to sit in the shade of the lunch arbor and talk quietly with friends are encouraged to do so, for some of them have walked three miles to school and need to relax before they begin the day's school work. There is always a group gathered somewhere under the trees or on the grass, practicing on their ukuleles, for the ukulele club of the school is a very lively affair.

Five minutes before nine o'clock a child proudly marches around the school building ringing a hand bell. Those children who are responsible for the care of the balls and bats bring them into the rooms. The drinking fountains and hand basins are busy for a few minutes. The children walk to their rooms without the formality of forming lines. Chatting in a friendly way, they troop through the halls in any order they please, as long as they use good judgment and good manners. The standard is thoughtfulness and a consideration of the comfort and rights of the other fellow.

At nine o'clock the seventh and eighth grade pupils are gathered in the room. The teacher takes a seat in the back of the room and apparently does nothing. The responsibility of the opening half hour is on the shoulders of the child who has been chosen as leader for the day. He or she goes to the front of the room and leads the salute to the flag, calls the roll, and marks the attendance for the day. Some child is asked to find music for the class on the radio. Any choice the children make is acceptable; some select jazz, some tune in on cowboy songs, a few select classical music.

Each week at 11:00 a.m. on Thursday, all enjoy the Standard School Broadcast programs. Some children who have listened to these and enjoyed them have learned to like classical selections. Others who have not yet attained this taste have a chance to tune in on the popular music during this morning period.

At the close of the radio period the leader calls on his classmates for book reports. These, of course, have been prepared in the reading periods of preceding days, and this is the child's opportunity to tell of the book he has read. To keep the interest of the group is the test of the report.

Original plays, poems, or nonsense rhymes that have been developed out of the social science unit in hand are also read in this opening period. If the ukulele club has a number ready, it may be presented at this time, or perhaps the jazzbo and bones players are ready to entertain with a song they have learned. Any remaining time is used for teaching new songs. Many children help in this. One child with a baton (hand-carved by the boys) leads the group. Some carry the

tune on the jazzboes; others keep time with the bones, triangle and cymbals. The teacher accompanies on the piano. The bones, cymbals, and triangles are played in this period by the monotones who need special tone work by themselves in the afternoon period for music. Because these can be played without any ability to carry a tune, the players feel themselves an important part of the music-making group. Those who play ukuleles or banjos learn the accompaniment to each new song as the rest of the class learns it. We try to have as much music as possible which has been written by the children themselves. Words are written to fit familiar tunes, or melodies written as well as the words.

From 9:30 to 10:30 a.m., is the social science study and reading period. The Rugg Social Science Series and the accompanying work books are used. In this period the children study from the reading book; take the tests in the work book; write stories and articles on the material they have looked up; exchange papers with each other for corrections; draw pictures, graphs, pictorial maps, diagrams, or cartoons illustrating the reading material; read other stories or books related to the same subject; write plays, stories, poems, or nonsense rhymes based upon the unit of work in which they are engaged. During this study-work hour, each individual is helped in finding the related reading material. Each child receives any needed help on his topic, any mistakes are corrected, and his report is returned to the teacher for a final checking. It is then ready to be given as a report in the opening period of some later day. Each paper is checked until it is acceptable in spelling, punctuation, and language usage. All of these corrections go on the original paper, so that the child wastes no time in copying papers. If he knows that the first paper must be reworked until it is in good form, he will try much harder for perfection in the first draft than he will if he feels that he is going to copy it over anyway. The standard for penmanship is neatness and legibility.

At 10:30 the group enjoys the morning recess. The first ten minutes is part of the physical education period, with group games, apparatus work, and stunts. The last ten minutes is for free play.

At 10:50 the class returns to the room for the social science discussion period. The child leader is again in charge of the room. The discussion is on the reading material which the class studied in the previous hour. The leader asks questions, gets opinions, and settles arguments over points under discussion, as far as he is able. The teacher enters into the discussion only when it is necessary to clear up word meanings, settle a point, or bring the talk back to the point in case the leader has allowed the class to wander from the subject.

11:30 to 12:00 is the drill period. This work is based upon the real needs of the class. The subject for drill changes from day to day as these needs change. The drill may be on English, spelling, vocabulary, place geography, historical facts, basic arithmetic principles, the Constitution, civics, printing, or almost anything else. Tests on units of work under way may come in this half hour.

At 1:00 o'clock the entire group is in the room for arithmetic. This is a forty-minute period, in which individuals or small groups of children forge ahead as fast as they can in their books, going to the teacher for help when needed. During the time, note is taken of the needs of the class as a whole or of small groups, to be handled during the drill period the next day.

1:40 starts the individual reading period when the children read for pleasure and appreciation from books on their own reading levels. During this period each child goes to the teacher, reads a little aloud, talks over the meanings of difficult words, discusses the story, or has his written reports corrected. The requirements for book reports are light, just enough of the story, interestingly told, to make some other child want to read the same book.

The afternoon recess is over at 2:40. During this twenty-minute period of music and physical education combined, different types of activities are planned and presented, so that a well rounded physical program is enjoyed. The children like to march to music, play singing games, and participate in folk dances related to their social studies. The songs, games, and dances of many countries make the room lively during such a period.

Last of all, from 2:40 to 3:30 comes the beloved activity period when each child does the thing which pleases him most in connection with the center of interest or unit of work going on in the room. The possibilities of this period are many. This is a partial list of the things individuals or groups of children may do at this time, all related to the work in hand:

Write plays and rehearse them
Write nonsense rhymes and music
Draw big pictures, sometimes 22 feet long, on wrapping paper, using chalk, calcimine, watercolors, or crayon
Practice on the school typewriter
Practice on jazzboes and ukuleles
Read for pleasure
Sew, embroider, weave
Carve in wood
Model in clay
Build sand table and settings for table

Make and dress puppets
Write the dialogue for puppet shows
Print with printing outfit
Decorate stage for plays and make scenery
Make and illustrate booklets and notebooks
Collect and mount pictures on unit of work
Make graphs, diagrams, or cartoons
Make toys, masks, and articles for holidays
Make relief maps of flour and salt

A brief record of our daily program follows:

Daily Program for Grades Seven and Eight

a.m.

9:00– 9:30 Opening: Radio, other music, book reports, social science reports. Pupil leader
9:30–10:30 Reading: Social studies reading books, related reading, work book study
10:30–10:50 Physical education and recess
10:50–11:30 Discussion of social science. Pupil leader
11:30–12:00 Drill and entertainment. English, spelling, place geography, vocabulary
Entertainment by pupil leaders. Plays, nonsense rhymes, history stories, or creative phases of social science
12:00– 1:00 Lunch

p.m.

1:00– 1:40 Arithmetic. Small group and individual work
1:40– 2:20 Reading; individual, for pleasure and appreciation; individual correction
2:20– 2:40 Recess and physical education; folk dancing, marching
2:40– 3:30 Motor activities growing out of social science unit of work. Individual and small group expression; art; handwork of all kinds; typewriting; ukulele practice; sewing; painting; carving, etc. Clean-up period

SUPERVISION BY THE PRINCIPAL IN THE SMALL SCHOOL

IRWIN O. ADDICOTT, *Supervising Principal, Addams, Franklin, Fremont, and Teilman Schools, Fresno, California*

The children who attend small schools (city or rural) are entitled to teaching which is the equal of that in our best city schools. If there is better teaching in large city schools, it is in no small measure due to the program of supervision in effect there. Supervision with resulting up-grading of the teaching and learning process is possible, and necessary in small schools. That it is difficult to achieve in many instances, those who are informed can not deny. The time element, among others, is a serious obstacle to the teaching principal who desires to put an effective program of supervision into operation in his school. While there are obstacles, they are not insurmountable. Every principal who wants to give his pupils the best possible teaching, will attempt to work out a usable program of supervision within his school, however small it may be.

The principal should first decide upon his purposes and objectives as a supervisor.[1]

Some of the questions he should seek to answer are:—What is supervision? Why should I supervise? What do I desire to accomplish by means of a program of supervision within my school?

The purpose of supervision is to improve the teaching and learning process within the school.

Supervision has two phases, *indirect* and *direct*. *Indirect supervision* has to do with improving the environment of the school and includes such items as providing better playground organization, lunchrooms, libraries, equipment, etc.

Direct supervision is a two fold task:

a. To see that classroom work is so organized that pupil growth is stimulated to the maximum.
b. To help teachers to become aware of their problems, to work out and apply *their own solutions* to them, and to evaluate the results of their changed procedures.

The principal should recognize individual differences in teachers.

We have long been insisting that teachers recognize the individual differences of pupils within their rooms. Teachers also are individuals, and those who supervise must recognize that they are

[1] The writer is indebted to Rudolph D. Lindquist, Director, the University School, Ohio State University, for the thought (though not the phrasing) of the material in this section.

as divergent in their personalities as the pupils within our classrooms. The principal must possess tact, sympathy, patience, and above all a friendly spirit. More will be accomplished by inspiration than by dictation.

The principal should prepare carefully.

Before a principal can hope to help teachers with their problems, he must study the situation confronting him. He must decide how to secure the cooperation of each teacher with whom he is working. He must analyze the work of each teacher in his school and decide what her problems are. He must consider the problem of what means had best be used to secure the ends he desires in each case, and he must know where he can get materials to help in the solution of each problem.

Supervision is no easy task. It requires constant study and planning if it is to be adequately achieved.

The principal should organize his school to find time for supervision.

The teaching principal in a small school finds lack of time one of the principal obstacles in the way of a program of supervision. How to make better use of available time is a vital problem.

Yard duty, assemblies, use of the auditorium, conferences with teachers, office hours for parents are examples of items which may be scheduled in advance for a month, semester, or year, saving thereby a great deal of time and energy which may be used in supervision.

Lunchroom duty, sponsoring of pupil councils and clubs, organization of community nights, plans for assemblies, etc., may be delegated to teachers, dividing responsibilities so that no one is overburdened, thus saving much time for the principal.

The use of older responsible pupils is possible and defensible in certain routine matters, such as care of stock rooms, answering phone calls, meeting and directing visitors, etc.

Satisfactory supervisory techniques for small schools

As the principal of four small schools in a city system, the writer has had an opportunity to try out and evaluate during the past two years, some supervisory techniques which have been found usable and effective in small schools. In the paragraphs which follow, certain techniques are discussed. Each has proved valuable and practical.

A Testing Program

One of the best means available for diagnosing the needs of pupils in tool subjects, and locating specific teaching difficulties of teachers is a testing program. For example, one principal tests all

pupils in grades four, five, and six with a standardized reading test at the opening of the school year. The results are used to diagnose the needs of pupils in each class. Pupils are sectioned and taught according to the results of these tests. Pupils who fall below normal are retested each nine weeks, and are resectioned if norms are achieved. Such a plan may be used in any tool subject, and certainly helps to stimulate pupil learning and to improve teaching technique.

Teachers' Meetings

Properly planned, and executed, teachers' meetings can be used effectively in stimulating teachers to conceive the real purposes of teaching and in an in-service training in acquiring skills and knowledges that will make their teaching more effective.

Meetings must be carefully planned after determining the needs of teachers within a school. Classroom visits, test results, and conferences with teachers should be helpful in determining these needs. The problems selected should be carefully stated and all available readings should be listed before discussion in a meeting. The plan might well include whatever means the group thinks will be most helpful in solving the problem—a visit to another school, a demonstration, or perhaps a speaker.

It seems best not to hold meetings too often—probably not more frequently than every two weeks or less than once a month. Routine matters should be avoided. Use another meeting for such business if necessary. The time and place of meeting should be convenient to all. A few minutes spent in social conversation, perhaps over a cup of tea, prior to the meeting (particularly if held after school) helps to break down undue formality and to relax teachers after the strain of a day in the classroom.

If there is to be a speaker or a report, limit the time thus used to not more than twenty minutes, allowing ample time for discussion. See that teachers have thought provoking questions in their hands a few days before each meeting to stimulate interest. A brief written summary provided for teachers after the meeting makes note taking unnecessary and frees the mind for discussion.

Attendance should always be voluntary. Meetings that are not sufficiently interesting and helpful to compel teacher attendance because of the problems being considered are probably not worth holding anyway.

Classroom Visits

For the principal who teaches full time, classroom visits for sufficient length of time to really be an effective help in supervision are difficult if not impossible. When a special teacher of shop or home economics or music takes the principal's class, this time can

well be spent in classroom visitation. Routine matters can be handled before or after school.

When visits to a teacher's room during school time are impossible, a fairly accurate picture of what is going on in classrooms may be secured by requiring written plans and policies from teachers at stated intervals; once each semester is suggested as a convenient unit of time for such plans.

If visits are possible, it is better to schedule them in advance instead of surprising teachers. Teachers then do not take the principal's visit as purely an inspection.

Classroom visits should never be looked upon as an opportunity to inspect but as an opportunity to get further information to help solve a problem previously determined upon by both teacher and principal which needs to be studied.

In dealing with teachers, as with pupils, we should always build upon their successes rather than upon their failures. Therefore, a visit to a room, when invited by the teacher is always helpful. One then sees the teacher and class at their best. Never visit when the teacher desires otherwise. It is never fair and seldom helpful to visit a teacher when she realizes that she is not doing her best work, whatever the reason may be. The best supervisors always recognize the human factor in supervision as supremely important.

If what we are trying to do in supervision is to stimulate pupil learning to the maximum, then in visiting a classroom, pupils rather than the teacher should be the chief concern of the supervisor.

A conference should follow a visit, but with sufficient time between the visit and the conference for adequate preparation by the principal.

Supervisory Conferences

The supervisory conference is probably the most useful and effective supervisory technique at present being used. It is equally practical and effective in both large and small schools because, (a) it can be held outside of school hours, (b) it can be fitted to the varying needs and personalities of individual teachers. The principal by means of it can get a fairly adequate picture of what is going on in each classroom.

There are two types of conferences—those asked for by the teacher to secure help with her problems and those requested by the principal. The latter type may have as its purpose a direct attack upon a problem the principal has noticed in the classroom, or getting a teacher to think through (with the principal) her own situation, and work out solutions to her problems.

Conferences should be scheduled if they are to be most effective. If this is not done, other things, less important, will crowd in and there will be no time left for them.

The effective conference is seldom less than one-half hour in length, and should be held at a time and place reasonably free from noise and disturbance.

One of the best ways to approach a known problem during a conference, or to locate a problem not already evident, is to go over the class roll with a teacher. Using permanent record cards, the register, or a graph or score sheet of test results, the principal and teacher discuss each child individually, his strengths, weaknesses, and progress. Such an attack focuses attention upon pupils and their needs and brings to light problems that are in urgent need of solution. There may be individual pupils who need to be studied in the light of mental hygiene. Perhaps many children are failing in reading. This is an excellent way to get teachers to become interested in the boys and girls as individuals and to become aware of the problems which face them as teachers.

As the conference is held to help the teacher locate and solve her problems, the teacher and not the principal should do most of the talking. A "ready made" solution to a problem, is seldom as effective as one worked out by the teacher herself.

It is best to discuss the teacher's problems with her in terms of her future plans rather than in terms of her past mistakes. A positive attack is always more effective than a negative one.

Research indicates that not more than *four* points can be effectively considered in a single conference and that the last two points discussed will be more readily put into practice than the first two. This would seem to indicate that a principal should bring up his most important points toward the close of a conference.

The differing personalities of teachers require as many different approaches to problems in conferences as there are teachers. The human element must not be forgotten.

Questions rather than declarations, are the best way to put over points. Dictation is frequently resented by teachers, but most teachers are stimulated by tactful thought provoking questions.

Supervisory Notes

The limited time available to a teaching principal makes the use of "supervisory notes" a justifiable and effective technique in supervision. When time precludes an immediate conference with a teacher, a note sent to the teacher (with a carbon copy kept by the principal) serves to keep the matter before both until such time as a conference is possible. Such notes should be used with care. Certain personalities do not respond to them, and with such persons conferences are necessary.

In a note sent to a teacher after a classroom visit, the writer usually includes the following items:

a. A brief description of the classroom situation and method used at the time of the visit.
b. Favorable comment (even if it is very, very brief).
c. Suggestions in the form of:
    1. Questions rather than declarations.
    2. Offers of substitute procedures for the consideration of the teacher rather than criticisms of what she is doing.

These are a few of the supervisory techniques which the writer has found practical and effective in the four small schools under his direction. These techniques should be usable in most small schools whether the principal teaches or not. No technique will be effective unless the principal knows what he wants his program of supervision to accomplish and unless he realizes that supervision is essentially friendly educational leadership.

SUMMARY

1. The purpose of supervision is to improve the teaching and learning process in a school by developing in teachers and pupils, constantly higher and worthier purposes, and greater command of the tools and knowledges that will make those purposes effective. Supervision, then, is a teaching process used by the principal with his teachers to stimulate pupil growth to the maximum.
2. Supervision is *indirect* and *direct*. *Indirect supervision* includes any activity of the principal which will improve the learning process. *Direct supervision* is seeing to it that classroom work is organized to best stimulate learning by helping teachers to become aware of their problems and to solve them.
3. Supervision is a cooperative activity. It must be fitted to the needs of individual teachers. Inspiration will prove more effective than dictation under most circumstances.
4. A school should be organized so that the principal will have time for supervision.
5. Usable techniques of direct supervision include classroom visitation, testing, teachers professional meetings, supervisory conferences and supervisory notes. In the typical small school the three last-named devices will generally be found the most usable and effective means of supervision.
6. The criteria by which the effectiveness of any program of supervision should be judged is: Do teachers come to the principal with requests for help with their problems and with invitations to visit them at their work?

THE INCIDENTAL TEACHING OF NUMBERS

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The change made in the formal arithmetic placement this year has disturbed many teachers in the third grade. They have been more or less overwhelmed with the idea that children would come to them with no idea of numbers. It seemed advisable to undertake a short investigation of the arithmetic exposures the children had met with in kindergarten, and first and second grades, to determine the type and frequency of the exposures within a given month.

It was found that the types of arithmetic experiences were the same from the kindergarten through the second grade but that the depth and breadth of the exposure varied. For instance: all children from kindergarten through the first and second grades experience numbers in their games. They tell time to some extent, come in contact with banking and money, use the calendar, use numbers in their dramatization, parties, construction enterprises, milk periods, and other activities. The depth and breadth of their experience with these exposures depends upon the grade.

A kindergarten class can count off 1, 2; 1, 2; 1, 2; to get partners for a game or they can count sides to see that the sides are even. In such a game as Hide and Seek or Fox and Geese, a second grade class may count 5, 10, 15, 20, 25, 30, etc. All groups form in a straight line or a circle. They learn "in front of," "behind," "right and left," "backward," "forward," "before," and "after." In races or games with turns, ordinals are learned; first, second, third, etc. Scores are kept which involve simple addition. More than one child keeps score.

Children learn to tell time and all children know about time to go to school, recess time, noon, time to go home, lunch time, dinner time, bed time. Some children associate these times with the clock, depending on the child and the grade.

All children learn the days of the week. They learn that seven days make a week. They go to school five days and stay at home two days. Kindergarten games, which teach the days of the week, are played each day, such as:

> Every Monday morning,
> Whether rain or shine,
> All the boys start from home,
> Skip to school on time.

After skipping around the circle the clock strikes nine and the children take their places.

Children come in contact many times with the names of the months through building their own calendar or daily newspaper.

Opening exercises in a first grade often include such activity as the following:

What day is this? Tuesday.
What number do we need on our calendar? 21.
What date is it? 21.
We don't say, "This is the 21 day." What do we say?
Get the 21st day for our calendar.

Out of this was learned number in sequence, ordinals, number recognition, days of the week, the month, and the year.

Birthdays are a source of interest and involve number experience. The following birthday rhyme is a typical illustration of this number experience in the kindergarten or first grade:

We wish you a happy birthday,
May you always be loving and true,
And may the kind Father above us
His best gifts shower on you.

Here's a clap for health
And one for wealth,
And one our love to show;
Here's a clap for each of the years
You have lived,
And one for you to grow.

How many times did we clap for Mary altogether? 10.
How many for her birthday? 6.
How many extra ones did we give Mary? 4.
Yes, 6, and 4 more are 10.

When the candles were blown out on the birthday cake, the children found 1 from 6 leaves 5; 2 from 6 leaves 4; etc.

Most children recognize coins; 1 cent, 5 cents, 10 cents, from their out-of-school experience. Some recognize larger amounts. Much counting takes place when money is handled by children, as well as recognition of numbers in written form. Thrift charts and calendars are used often in classrooms.

The following example of "Banking" in a first grade room will illustrate the number experiences of the children:

The children brought their pennies to school in order to secure one of the school savings banks. Each child put his money in the bank in front of the class. They counted aloud as each coin dropped.

The child's name was placed on the chart or the board followed by the amount in his bank. His experiences were, "Jean has 3 cents." Later, 5 cents, 2 cents were added. Children with considerable number concept learned: 3 cents and 5 cents more are 8 cents. Eight cents and 2 cents more are 10 cents.

The bank calendar kept in the room showed there were 3 fives one day, 2 threes another day, etc. The children learned 3 fives were 15; 2 threes were 6, etc.

The number of boys who banked was counted; the number of girls who banked was counted. The number of boys and the number of girls who banked were added. All the children who banked were counted. Even the young children learned that five pennies made a nickel, two nickels made a dime. The older primary children learned that 100 pennies made a dollar, 10 dimes made a dollar, 20 nickels made a dollar.

Much can be learned about numbers during the milk period. The plan carried out by one teacher follows:

A chart was made having days of the week on it and a little pocket under each day. Cards were made to fit into these pockets. Each card contained a number and dots representing the number, viz.:

This served as a self help to the child in determining the number. The number of children desiring milk was counted, then a child went to the chart, selected the number and placed it under the correct day of the week. Besides learning to count, the children were learning to recognize the numbers, the days of the week, and the meaning of first, second, third, etc., through the meaningful experience.

It does not take long for the children to learn that one bottle of milk at school costs 4 cents and that they must bring 20 cents for milk for the week. They also learn that lunch at 5 cents a day costs 25 cents for a week. Five pennies will buy one lunch, for they are equal to a nickel. In cases where change is made, children can gain much information if the teacher makes use of this opportunity. The size of milk bottles gives one-half pint, pint, quart, or gallon.

After reading "The Story of Milk," the children counted the number of cows Jane saw; also, the number of kinds of food made with milk. They listed and counted the number of animals which gave milk to people to drink. They listed the number of animals that drink milk.

There are many opportunities for children to check material as it is distributed and collected during the course of a school day. Monitors may count the number of pencils, papers, boxes of crayons, chairs, etc., needed. They may note how many articles are left in the box, or how many chairs are left after four chairs are taken out of the semicircle.

In folding papers for work or construction, ½, ¼, ⅛ are learned as the paper is divided into two parts, four parts, eight parts. Children learn 2 and 2 are 4; 4 and 4 are 8; to count by 2's, as 2, 4, 6, 8; or to count 1, 2, 3, 4, 5, 6, 7, 8. Written directions as: Fold your paper in four (4) parts; fold your paper in half (½); pass papers to first group, second group, or fourth group; give many opportunities for practice with concept of parts.

Attendance and morning check-up furnishes another approach to number experiences for small children. The following questions are typical of this usual morning activity:

How many boys have we today?
How many girls have we today?
How many have we altogether?
How many are absent?

One first grade reported by groups on results of cleanliness inspection. The first group had yellow stars for the three days on which they were all clean. The second group had two red stars and three yellow stars for their group record. The red stars stood for five yellow stars, so they learned that 5 stars and 5 stars = 10 stars. 10 stars and 3 stars = 13 stars they had altogether. Frequent questions were:

Which group has the most stars?
How many more stars has the second group than the first group?

Almost every enterprise undertaken as a part of the daily program includes number experiences. "What page are we reading on today?" is a common part of every reading lesson, as are such statements as: "Mary, please read the first story under the picture," or "Find the third story and tell me what it says," or the question "Who can write the number of the page on which we are to read today?"

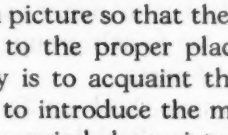
The daily newspaper in the primary classroom gives an acquaintance with the day, month, and year. Frequently the items in the newspaper are numbered.

Nursery rhymes, jingles, and finger plays are a common source of number interest. "1, 2, 3, 4, 5, I caught a hare alive," "One, two, buckle my shoe; Three, four, shut the door," "Two little blackbirds," and "Little Pigs" are familiar examples.

Reading seat work often involves the use of numbers:

Draw 3 apples. Draw three apples.
We have 4 windows in our room.
_____girls sit in the first row.
Mary is the _____girl in the first row.

In the kindergarten and 1B groups, picture stories are placed where the children can easily see and reach them. The children string beads according to the number-story they wish to express. Combinations of colors are discussed, also the shapes of the beads. A nail is put beside each picture so that the children may hang their beads upon it according to the proper placement of number. The aim of this little activity is to acquaint the children with concrete examples of number and to introduce the meaning of certain shapes. One child, at free activity period, drew pictures like those represented and put the correct number in the correct place.



Still another activity which lends itself admirably to number experiences is dramatization. For example, the story of "The Three Bears" would include such questions as:

How many bears were there?
What size were these bears?

Children may be chosen to represent the bears, with thought given to the relative sizes; the number of bowls, chairs, and beds in the story; and the time the bears returned home

"The Little Wooden Farmer," by Alice Dalgliesh, was dramatized in one second grade. In making the animal heads, the children counted the number of heads in order to obtain the right number of paper bags, a horse, a cat, two white sheep, a rooster, a hen, a dog, and a cat. The teacher asked the children such questions as:

How much space do we need in which to give this play?
Where will the audience sit?
How many chairs can we get in that space?
How long is this river?
Where shall these animals be?

All primary rooms have parties. The children have an opportunity to decide upon, select, and count the number of committees

needed and the number on each committee. They discuss how many people are to be cared for at the party, the number to be served, the plates, the napkins, amounts of food needed, costs, decorations, chairs, and games. Out of it all grows a need for counting in sequence, ordinals, and such weights and measures as 1 lb., pound; 1 qt., quart; 1 doz., dozen or 1½ dozen; 15 cents or 15c; $1.50; addition, a little multiplication, subtraction, and division.

Many opportunities come daily for the use of numbers in a construction enterprise. The teacher knows that these will arise and often questions herself as to when she should teach what she knows the children will need. For example, a class is working on a unit of work built around a market. The teacher knows that these children will need to know something about money, how to count, and how to do the simplest addition and subtraction. They should also know something about measurement. The work would go much more expeditiously if the children knew these facts and so the teacher questions as to whether she should drill the children on these facts before they come to the situation where they need them. This is the significant difference between formal and incidental arithmetic. If the teacher takes the number facts away from the market unit and drills on them before the child has felt the need, then she is doing formal arithmetic. If the teacher allows the children to learn the facts they need at the time they need them through their major interest, the market, then the work is incidental. In other words, the main problem to the child is the market, and he should readily and eagerly learn the facts he needs to make his market satisfactory if the situation has been made sufficiently interesting. He sees a need for number tools. Some of the facts needed in the market might be:

1. Measuring
   - The length and width of the awning
   - The length and width of the stripes in the awning
   - For the counter and the shelves and estimating their size and the number needed
   - The boxes
   - The length of the laths and estimating the number needed and the space between each
   - For the windows and deciding on the number and size
   - The paper to cover market

To do this the child uses ruler, yardstick, and tape line. He comes in contact with inches, foot, feet, yard, yards, and finds 12 inches make 1 foot, 3 feet make a yard. He learns the common abbreviations such as *in. ft. yd.*

2. Counting
   - In sequence
   - Ordinals
   - By 2's and 5's
   - How many bunches of carrots will be needed, 5 in a bunch
   - Dozen, doz.
3. Recognizing money in order to make change
4. Making and adding the bill
5. Making labels
   - Writing numbers
   - Using abbreviations
6. Learning number-words and signs: dollar, $; dime, cents, c; nickel, quarter, penny, half, five, ten, pound, lb., dozen, doz., ½ doz. = 6
7. Comparisons: kinds of markets; size of market; size of vegetables, windows, and displays
8. Arithmetic vocabulary

Size

large, short, small, long, thick, thin, big, little, as tall as, as short as, as big as, taller than, bigger than, heavier, lighter, longer, shorter, wider

Arrangement

up, down, in, out, over, under, top, bottom, right, left, front, back, inside, outside

Measurement

inch, foot, yard, bunch, dozen, many, few, lug, square

Incidental number teaching is a spiral extending from the kindergarten through the second grade. Each grade is exposed to the processes, but as the spiral goes upward, the exposures are deeper and broader and more frequent. Children will enter the third grade with number background meaningful from these first hand experiences, and with a more mature mentality, which will enable them to begin formal arithmetic with a feeling of familiarity and a knowledge that it is of real use to them.

THE NEW CALIFORNIA STATE TEXTS IN ARITHMETIC

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One of the chief causes of non-promotion in the elementary schools during the years past has been failure in the subject of arithmetic. Scientific study of the arithmetic curriculum has presented evidence that much of the traditional subject matter commonly taught in schools of the past generation is of little social utility and much too difficult for many children in the grades in which it has been taught.

The subject of arithmetic was usually taught the first thing in the morning because it was considered the most important subject, and the first hour of the day was thought to be the best hour of the day. Educators know today that neither of these things is true. Studies have shown that the first hour of the day does not seem to be as profitable an hour as later hours, when children become more thoroughly interested and absorbed in their tasks. As for arithmetic being the most important subject in the curriculum, experience has proved the fallacy of this idea. How often many adults today have wished that more music appreciation, more acquaintance with the poets and literature, more practice in the expression of ideas before a group, had been given them, in place of the laborious hours spent in learning ratio and proportion, dividing huge numbers in long division (the equal of which they have never seen since), or in finding out about the length of a shadow cast by a flag pole? How many times during the day does the ordinary person make use of arithmetic? We keep a check book in which we use primarily subtraction, we make change, and we are concerned with mileage on our automobiles. On the other hand, how many times a day do we come in contact with music; the radio, the phonograph, community meetings, church, the dance, the lullaby?

Educators are in agreement that a knowledge of arithmetic is important. We need to know the fundamental processes in order to take our place in modern life in an acceptable fashion, but haven't we put altogether too much stress on this subject? A person could be very happy and a respected and prosperous citizen who could not do a problem in square root or find the area of a hexagon. If that person had had an all-round education, and the need to do either of these arithmetic problems was sufficiently great, he would find out how to do both, and that in short order.

The newer arithmetic texts of today have eliminated many of the cumbersome, difficult, useless processes, and that has reduced the complexity of the skills that children are now expected to acquire. Problems have been greatly enriched and vitalized by making them apply to meaningful situations within the child's experience.

The California State Board of Education has recently adopted a new state text in arithmetic. These books are now in use in the schools. Those familiar with the *Triangle Arithmetic Series* published by the John C. Winston Company will note some changes in the California edition. The most drastic change has been made in the content of the third grade book; for this reason, the third grade book was but recently distributed. All of the third grade books submitted for adoption took for granted considerable knowledge of arithmetic on the part of the child before he entered the third grade.

Courses of study during the last decade have been written to fit the available textbooks and textbooks in turn were made to conform to courses of study, and thus a vicious circle has eventuated, even though the best primary teachers throughout the state are convinced that formal arithmetic as such should not be taught before the third grade. The important things for children in the first and second grades are a wealth of social experiences and the acquisition of the reading skill. Primary teachers in general are convinced that these two objectives should be realized before formal arithmetic is presented.

The California edition of the third grade arithmetic text has taken cognizance of this conviction. The new state book for the third grade presupposes no knowledge of number. At the beginning of the book, from 75 to 100 pages of easy reading material based upon children's interest and experience have been inserted. In this easy reading material the child is introduced to number concept and number vocabulary, and the use of number in real life experiences. Many children will have acquired this number concept during the first and second years in school. Much incidental number experience will go on in every primary classroom, and this is as it should be. If number concept has been acquired by some of the children, this easy story material can be read easily and quickly and enjoyed by the child before starting the formal work on combinations presented in the remainder of the text. For the child who has not yet acquired number concept, this story material will develop it for him before he is plunged into the intricacies of formal number.

In order not to make the work of the third grade too heavy, multiplication and division beyond the 2's and 3's has been placed in the fourth grade book. The most significant change that has been made in the fourth grade book is one in which all of the fourth grade

teachers should rejoice. The teaching of long division has been lifted bodily out of the fourth grade and put into the fifth, along with the addition, subtraction, and multiplication of fractions. If, because of previous arithmetic training, the fourth grade book seems easy for this year, there is no cause for alarm, for teachers will thus find time enough to stress reading comprehension, which plays such a large part in the mastery of reasoning problems in arithmetic. These changes in the fourth and fifth grade books will in turn reallocate the division of fractions and the study of decimals in the sixth grade book.

No extensive changes have been made in the text for the seventh grade.

In the eighth grade an attempt has been made to make more effective the presentation of the subject of investments. This is a difficult subject to present to any group, much less an eighth grade group of children, because our whole economic structure is changing so rapidly and so radically, but there has been an attempt made to give pertinent information in this text, with the hope that these children will not be too gullible to the wiles of the high powered salesmen, and will go into investments with some knowledge of risk and security.

These texts have been developed systematically and scientifically, and should furnish a basis for teaching and thus eliminate the necessity for a course of study in arithmetic in the hands of the teacher. The most important consideration in arithmetic teaching is the provision we must make for individual differences in children. We know the wide variety of abilities evidenced in children. These differences must be met if we are to do an effective piece of teaching. Arithmetic is a skill subject, and skills must be acquired individually, each according to the capacity of the individual, if the teaching is to be efficient and economical. Group instruction in arithmetic does not meet our problem.

The recitation method of the traditional school broke down when the school undertook to educate "all the children of all the people." We know that a blanket method will not meet the individual difficulties of children in arithmetic and we know these individual difficulties do exist in every classroom. These new texts are divided into short units; they are provided with diagnostic tests; and they have made preparation for additional and more difficult work for the superior child. All of these provisions are to help you meet this very problem. To give additional concrete assistance in individualizing the arithmetic program, various groups of teachers and supervisors throughout the state are preparing units of work based upon the new texts, with directions and instructions for the child, so that the mate-

rial may be put into his hands to guide his individual progress. Each unit has tests to accompany it, and each child must pass a satisfactory test before going on into the next unit. The tests provided are of varying difficulty, so that the teacher may adapt the test requirement to the ability of the child. There is also provision made in the units themselves so that a child of lesser ability may not attempt the more intricate problems.

In teaching by the unit plan, the whole group of children should be tested to ascertain grade placement and difficulties, and then each child should be given work commensurate with his need. The fact that a child needs to master the difficulties of borrowing in subtraction should not be overlooked because he happens to be in the sixth grade and should have mastered this skill in the third grade. Each child should begin where his need is. Under such a plan, each child is working individually, and he may progress at his own speed, keeping a graph of his own progress. The teacher is free to move about and give help where it is needed. This is the most difficult type of teaching, but the most effective kind.

Each teacher is entitled to a copy of the book *Diagnostic and Remedial Teaching in Arithmetic*, by Brueckner. This is the most comprehensive treatise available on this subject. A wide variety of helps are included in this book; the use of tests, bibliography of the best tests on the market, helps in problem solving, and diagnosis of difficulties encountered in handling fractions, decimals, and whole numbers. The new state texts and this additional teacher's book should aid the teacher in making a scientific analysis of arithmetic difficulties and furnish the means of handling these difficulties on the basis of individual differences.

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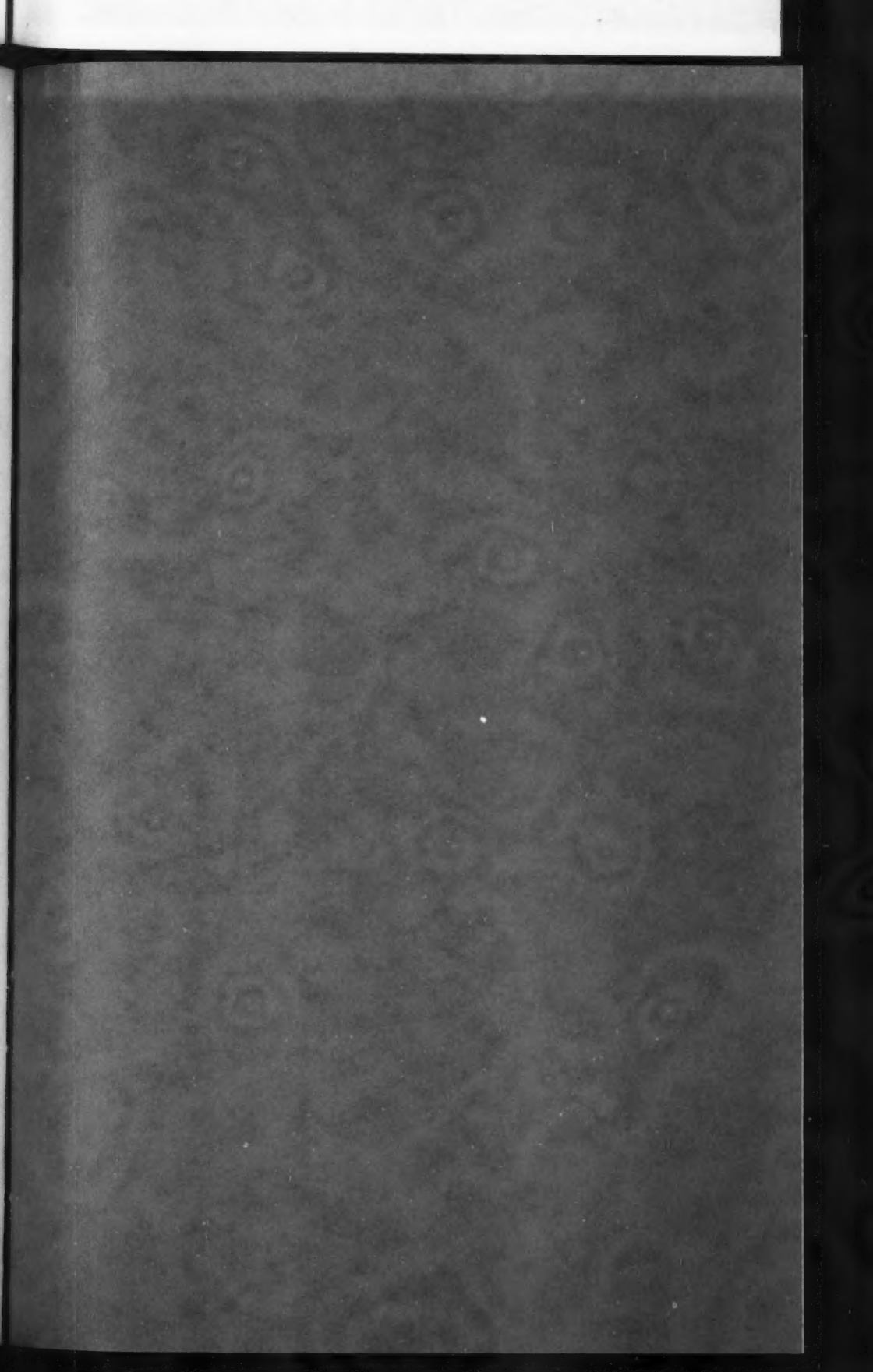
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